

SCREEN FLASH ELIMINATOR FOR NASCOM 2 MK II

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This SCREEN FLASH ELIMINATOR totally removes screen flash from a Nascom 2 without interference to any facilities. When the unit is fitted, your Nascom board will fit in a rack mounting frame with boards on a one inch pitch.

The unit produces wait states, but even machine code programs that use extensive screen access take no more than 1% longer to run. (See note 2 below.) With Basic programs the extra execution time is much less than 1%.

Fitting instructions. Read all instructions at least once before starting.

Remove IC 69 (74LS32) from the Nascom board and insert it into the empty IC socket on the unit, as shown in fig 1.

Two wire connections have to be made from terminal pins on the unit, to plated through holes on the Nascom board. These are marked (a) and (b) in figs 1 and 2. (a)fig 1 connects to (a)fig 2, and (b)fig 1 to (b)fig 2. The connection wire supplied should cut into two pieces each 9 cms long. They may be soldered directly to the plated through holes. Alternatively you can make terminal pins from half inch lengths cut from a half watt resistor lead, which can be soldered into the plated through holes. These will be similar to the existing terminal pins on your Nascom but slightly smaller in diameter. One end of each wire should be soldered to the correct terminal pin on the unit, the other to a "soldercon" pin (supplied). The Soldercon pins will plug on to the terminal pins on the Nascom board so you can easily remove the unit if required.

The unit can now be inserted into the socket from where IC 69 has been removed. Make sure that the unit is inserted the correct way round. All IC's on the unit should have their number 1 pins in the same orientation as the IC's on the Nascom board. The two wires should now be connected.

Remove IC58 (74LS123) from the Nascom board. IC58 creates a blanking pulse each time the screen is accessed, to cover up what would have been a white flash. Now that the (blanked out) white flashes have been eliminated, it is necessary to disable the circuitry that produces the blanking pulses. The simplest way is to remove the IC that produces them (IC58).

No connection need be made to the third terminal pin (marked 'control pin' in fig 1). It can be left unconnected. See note 1 below. Your Nascom may now be reassembled and powered up. Screen flash should not be visible.

Try C 1000 1001 1000 (enter)
T 1000 2000 1000 (enter)

Notes.

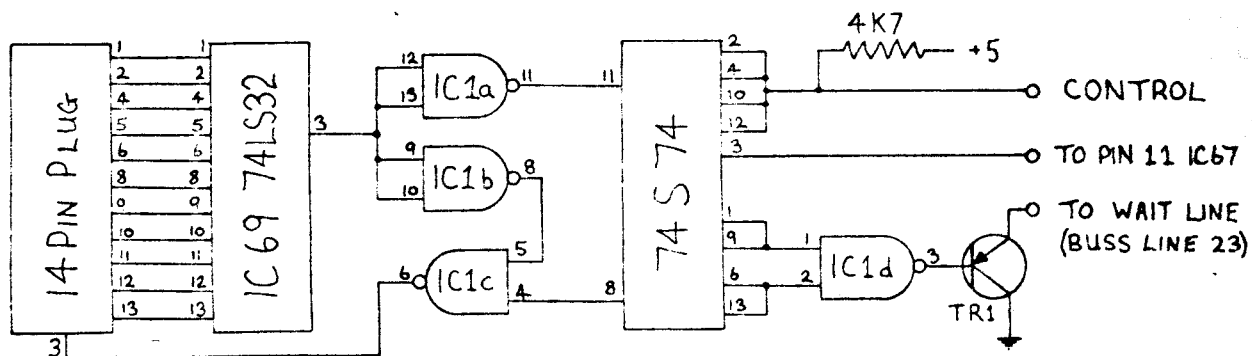
1 The third terminal pin on the unit, marked 'control pin' in fig 1, can be used to switch the unit on and off. When left open it is held high (logic 1). If it is brought low (logic 0), the unit ceases to stop screen flash. i.e. no wait states will be produced by the unit.

2 A continuous tabulation to the screen is a fair test of a machine code program with extensive screen access, as it forces almost continuous scrolling, which uses LDIR operations on the whole of screen memory. T 0000 FFF8 FFFF8 (enter), takes 213 seconds on standard Nascom. (4MHz, with a wait state, Nas-sys 1.) When the unit is fitted the same tabulation will take 215 seconds. An increase of less than 1%.

SCREEN FLASH ELIMINATOR

CIRCUIT DIAGRAM

POWER RAILS NOT SHOWN



IC 1 - 74LS00

TR1 - BC557 (OR SIMILAR)

LAYOUT VIEWED FROM COMPONENT SIDE OF BOARD

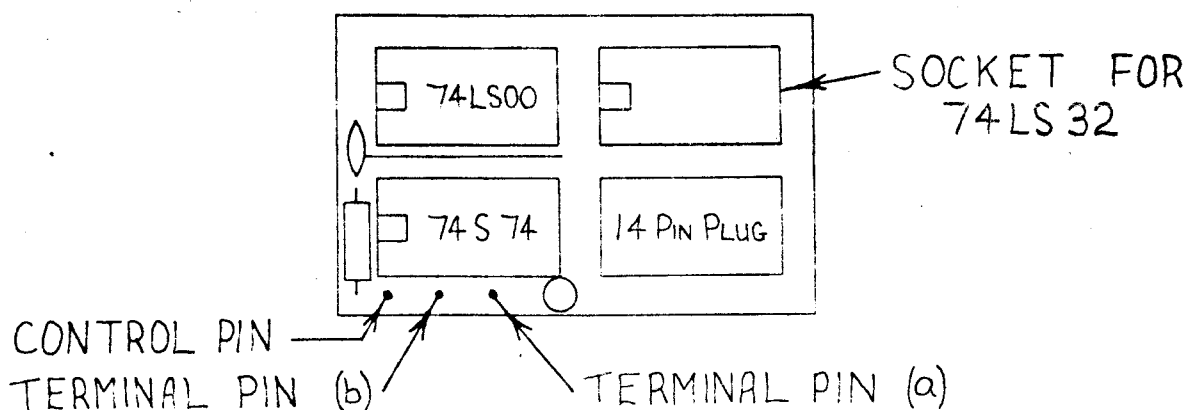
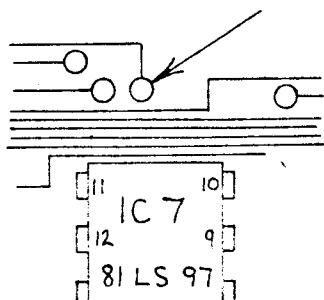


FIG 1

NASCOM BOARD SECTIONS VIEWED FROM COMPONENT SIDE OF BOARD

PLATED THROUGH HOLE (a)



PLATED THROUGH HOLE (b)

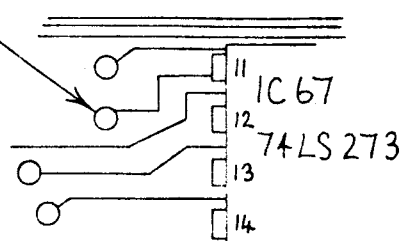


FIG 2